

MEMORANDUM

February 13, 1985

To: Sooner Dial Company File

From: Robert L. Craig, Director *RLC*
Radiation Protection Division

Subject: Survey and Sampling

On February 11, 1985 I visited with Mr. Ron Grubbs, the present owner of the site. Mr. Terry Theisson, Custer County Sanitarian, accompanied me.

I told Mr. Grubbs of the results of Smith and Truby's visit to the site on January 24th and delivered Kellogg's letter.

Mr. Grubbs asked me what his legal position in this matter was. I told him that he should consult his attorney.

I told Mr. Grubbs that we needed a more detailed survey of both the vacant lot and the inside of the building. He gave his permission and assured me that he would cooperate in our investigation. He gave me the key to the building. After Mr. Theisson and I finished, I returned the key to Mr. Grubb's secretary and told her that I would write a report and send him a copy.

Theisson and I measured and recorded the gamma ray count rates at 45 locations. Two measurements were made at each location. The first was at about three feet above the ground surface. The second was at the surface of the ground. The measurements were made with the 1" x 1" NaI detector and the Ludlum Model 15 rate meter. The results of the measurements are shown on the attached sketch. The ground surface measurements are shown as the lower of the pair of numbers.

The general background count rate at locations off the site was 1,000 to 2,000 cpm.

Examination of the area near the water meter from which a sample was taken on January 24 (described then as a manhole) revealed a thin layer of hard, greenish-gray material which is very radioactive. The material had small spots or flecks of greenish-yellow material in it. It has the appearance of sludge with luminous paint in it.

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Memorandum

February 13, 1985

Page 2

In addition to the measurements, samples were taken at three locations on the site. The soil at each sampling location from the surface to 2 inches was marked as sample A, from 2 to 4 inches as sample B, and the soil from 4 inches to 6 inches as sample C. At point 2 the soil depth was only about 4 inches, so only 2 samples were taken there.

In general, the soil depth on the property was about 6 inches. Below this depth was sandstone which appeared to be undisturbed. Some places were very muddy and the soil may be deeper there.

On the concrete apron behind the building were found two localized hot spots, indicating the presence of radioactive material beneath the concrete.

There is a water line in the alley behind the site. At three locations where there are water meters, we found hot spots with count rates up to 250,000 counts per minute.

The inside of the building (which was being used as a warehouse for video games, pool tables, and other things) was surveyed for gamma and alpha radioactivity. Gamma ray levels were about 1,000 cpm. The rear portion of the warehouse had a bare concrete floor. Most of the floor had about 100 to 200 cpm of alpha radiation detectable. One swipe sample of a 100 sq cm area was taken.

The pattern of radioactivity found indicates wide spread contamination from the property across the alley to the street and extending down the alley to the south.

RLC/bh

cc: Bob Kellogg
Dale McHard
Wib Truby
Coleman Smith

10th Street

Sooner Dial Co. Site

12-Feb-85
RLC

Street

